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# A Surface Exploration in Search of Mycenean Roads in Nomos Fokidhos and Nomos Fthiatidhos

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A SURFACE EXPLORATION IN SEARCH OF MYCENAEAN ROADS  
IN NOMOS FOKIDHOS AND NOMOS FTHIOTIDHOS

by

Edward W. Kase

Dissertation submitted to the faculty of the  
Graduate School of Loyola University, Chicago  
in partial fulfillment of the  
requirements for the degree of  
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## VITA

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## LIST OF ABBREVIATIONS

- AJA The American Journal of Archaeology.
- BCH Bulletin de Correspondance hellenique.
- BSA The Annual of the British School of Archaeology at Athens.
- CAH Cambridge Ancient History.
- RA Revue archaeologique.

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## CHAPTER I

### INTRODUCTION

The evidence needed to establish that a Mycenaean road or roads had indeed existed between the Krisaeon and the Malian Gulfs was found by means of a surface exploration in April and June, 1972.

In a thesis submitted to the Graduate School of Loyola University, Chicago<sup>1</sup> and in a paper presented at the 72nd General Meeting of the Archaeological Institute of America,<sup>2</sup> the hypothesis presented was that Mycenaean Krisa could well have been the controlling transfer center at the southern end of a trade route<sup>3</sup> between the Krisaeon Gulf and the Malian Gulf. This hypothesis was based on evidence from the available primary and secondary written evidence and from the best available topographic maps of mainland Greece and the Aegaeon Sea,

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<sup>1</sup>E. W. Kase, "A Study of the Role of Krisa in the Mycenaean Era" (Unpublished Master's thesis, Graduate School, Loyola University, Chicago, 1970), p. 41.

<sup>2</sup>For a summary of this paper, see E. W. Kase, "A Study of the Role of Krisa in the Mycenaean Era," AJA, 72 (1971), pp. 205-206.

<sup>3</sup>The distinction between a town which can be reached by trade and one which is on a trade route must be made. Also, the distinction must be made between a road which connects settlements for the purpose of local trade and communication and a road which will serve as a land segment for the movement of foreign trade. In making these distinctions, we follow Gomme who states, "When you say that a town is situated on a trade route, you do not only mean that foreign trade can easily reach it, but that foreign trade, in order to reach another place, must go through it." See A. W. Gomme, "The Topography of Boeotia and the Theories of M. Berard," BSA, 16 (1911-1912), p. 192.

specifically those of Nomos Fokidhos and Nomos Fthiotidhos,<sup>4</sup> but no archaeological architectural remains had been found to prove that a road or roads of this trade route had existed.

Although no archaeological architectural remains of the road segment of the isthmus trade route had been found, the investigation into the role of Mycenaean Krisa in the Late Helladic period did reveal ample evidence to support the hypothesis mentioned above. Since there is evidence of a large population around the west end of the Malian Gulf<sup>5</sup> and also in the Krisaeen Plain<sup>6</sup> during Mycenaean times, it is reasonable that trade and communications would have been established between the two areas as well as between settlements within the interior of Phocis.

That the isthmus road between the Malian and Krisaeen Gulfs was indeed a trade route is supported by a number of facts. It is Gomme's opinion, after a careful study of the lack of ports on the inhospitable northeast coast of Euboea and of the dangers and delays involved in Mycenaean navigation on the open sea and in the Euboic Gulf and rounding Cape Sunion, that any shipping from Troy and the Helles-

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<sup>4</sup>Geographic identifications, distances, and topographic measurements were taken from Sheets 1817-1, 1818-1, 1818-2, U. S. Army Map Service, Series M 708, Scale 1: 50,000, 1953, CONFIDENTIAL. These maps were used also in the present investigation.

<sup>5</sup>Iliad ii. 681-685; R. Hope Simpson and J. F. Lazenby, "The Kingdom of Peleus and Achilles," Antiquity, 33 (1959), pp. 102-105; R. Hope Simpson, A Gazetteer and Atlas of Mycenaean Sites (London: 1965), pp. 139-142.

<sup>6</sup>J. Janneray and H. van Effenterre, "Fouilles de Krisa," BCH, 61 (1937), p. 323; V. Burr, "Untersuchungen zum Homerischen Schiffskatalog," KLIO, Beiheft 49 (1944), p. 30; J. L. Caskey, "Greece and the Aegean Islands in the Middle Bronze Age," CAH, fasc. 45 (1964), p. 8.

pont destined for the West would not have crossed the Isthmus of Corinth nor would it have touched Boeotia but it would have reached the Gulf of Corinth at Itea by means of an overland route through Phocis.<sup>7</sup> And it is known that mainland Greece did indeed trade with Troy as Stubbings and Vermuele list horses, silver, and textiles as Trojan imports,<sup>8</sup> and, although the exact area from which tin was imported from Anatolia is not known, it could have passed over this same general route from any area near the Hellespont.<sup>9</sup> Also, again using the research of Gomme, Group III type cut-and-thrust swords from central Europe, and found in Phocis,<sup>10</sup> could well have followed the same route from the northern Aegean at the mouth of the Vardar River in Macedonia<sup>11</sup> and then have come overland from the Malian Gulf to Phocis. In addition, the Baltic amber, found in the areas of Krisa and Delphi<sup>12</sup> could have come both from the north via the Adriatic<sup>13</sup> on Krisaeen ships and it also could very well have followed the same route from the north as described by Gomme, beginning in the northern Aegean at the mouth of

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<sup>7</sup>Gomme, op. cit., p. 207.

<sup>8</sup>E. Vermuele, Greece in the Bronze Age (Chicago: 1964), pp. 257, 261, 275; F. H. Stubbings, "The Rise of Mycenaean Civilization," CAH, fasc. 18 (1965), pp. 21, 26, 29.

<sup>9</sup>Vermuele, op. cit., p. 228.

<sup>10</sup>H. Catling, "A New Bronze Sword from Cyprus," Antiquity, XXXV (1961), p. 120.

<sup>11</sup>Vermuele, op. cit., p. 228.

<sup>12</sup>C. W. Beck, "Amber in Archaeology," Archaeology, XXIII (1970), pp. 8-11.

<sup>13</sup>D. E. Strong, Catalogue of the Carved Amber (London: 1966), pp. 6-18.



the Vardar River valley. In contrast, the only non-Baltic amber found in the Mycenaean world, Sicilian in origin, was found at Pylos<sup>14</sup> showing that that line of communication was not one which could be termed a trade route<sup>15</sup> since Pylos and Sicily were terminal points and the shipments were not transferred. "here Gomme shows a direct connection from the northern Aegean and northeast Greece to the southwest of mainland Greece via the isthmus route between the Malian Gulf and the Krisaeon Gulf, Desborough and others show a direct connection over this same route from the south to the north and the northeast. According to Desborough, Achaean amphora and four-handled vases from the northern Peloponnese were transported across the Krisaeon Gulf through Phocis to the final destination in Thessaly.<sup>16</sup> Also, Heurtley and Megaw show the same type of south to north movement of goods bound from the Peloponnese to Thessaly. Not only were pottery and lead rods from the Argolid found in inland Thessaly,<sup>17</sup> but the same pottery has been found along the north coast of the Malian Gulf.<sup>18</sup> In addition, a variety of foreign trade contacts is revealed along the route by means of the excavations of the citadel at Krisa and at Delphi. Artifacts found at

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<sup>14</sup>Beck, op. cit., p. 11.

<sup>15</sup>See Gomme's definition. Supra, footnote 3, p.

<sup>16</sup>V. R. d'A Desborough, The Last Mycenaeans and Their Successors (Oxford: 1964), pp. 16, 227.

<sup>17</sup>A. Heurtley, "Notes on the Harbours of S. Boeotia and Sea-Trade between Boeotia and Corinth in Prehistoric Times," BSA, XXVI (1923-1925), pp. 43-44; A. H. S. Megaw, "Archaeology in Greece," Archaeological Reports for 1964-1965 (British School of Archaeology at Athens: 1965), pp. 20-21.

<sup>18</sup>Desborough, op. cit., p. 227.

Krisa by French excavators in 1936 and 1937 included imports of gold, pottery from Korakau, Mycenae, Prosymna, the Cyclades, and Crete, and a necklace from Zygouries,<sup>19</sup> and the pottery evidence from Delphi in the LH III B shows contact with Mycenae, Zygouries, Rhodes, and Cyprus.<sup>20</sup> Thus, international trade had indeed moved in both directions via the Krisaeon Gulf-Malian Gulf trade route, and since the modern Gulf of Itea leads to the area's largest natural and protected harbor with the best inland communication,<sup>21</sup> it follows that Krisa was indeed located on an active trade route. In addition, evidence shows that the impregnable citadel of Krisa, the largest area enclosed within protective walls in central western Greece and also located in a strategic geographic and topographic position overlooking the ancient harbor<sup>22</sup> of Kirrha on the Krisaeon Gulf,<sup>23</sup> could well have served a purpose which is the vital

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<sup>19</sup>Jannoray and van Effenterre, op. cit., p. 308; J. Jannoray and H. van Effenterre, "Fouilles de Krisa," BCH, 62 (1938), pp. 125-127.

<sup>20</sup>A. Furumark, The Chronology of Mycenaean Pottery (Stockholm: 1941), pp. 132-145.

<sup>21</sup>U. S. Naval Oceanographic Office, H. O. 3963; Gomme, op. cit., pp. 203-205.

<sup>22</sup>The area of Krisa is calculated at approximately 290,000 square meters inside the protected area. See Jannoray and van Effenterre, op. cit., 61, plate 23; see also L. Lerat and J. Jannoray, "Premieres Recherches sur L'Acropole de Krisa (Phocide)," RA, Series 6, VIII (1936), pp. 129-145; Burr, op. cit., p. 31; A. Philippson and E. Kirsten, Die Griechischen Landschaften (Frankfurt am Main: 1951), p. 405.

<sup>23</sup>Supporting the conclusion that Krisa might well have been a sea power and might well have been known for her sea trade activity is the fact that the Corinthian Gulf was known in antiquity through the Archaic period as the Krisaeon Gulf. Cf. Strabo 9.2.1, 9.21.4, 8.5.21, 5.1.7, 7.7.3, 9.3.1; Homeric Hymn to Apollo 431; Thucydides 1.107.3, 2.86.3, 2.69.1; Xen. Hell. 4.29; Poly. 5.3; Livy 26.26, 28.7.8. Other evidence for the maritime power of Krisa is the reference to her "forty black ships" in the Iliad ii, 517-524.

need of any trade route -- that of a transfer center of imposing strength (fig. 1).

While Mycenaean roads have been found in other parts of Greece, in Messenia,<sup>24</sup> the Argolid,<sup>25</sup> and in southern Boeotia,<sup>26</sup> the primary purpose of those roads appears to have been to serve the local areas and would not necessarily have been that of trade routes. Although those roads are probably not primarily trade routes, the architectural evidence, their construction, their size, and their direction in relation to settlements and general topography, indicates that Mycenaean engineers could well have constructed a road or roads across the inhospitable terrain between the Arisaeon and the Malian Gulfs.

Therefore, since there was reason to believe that a trade route had existed even though the proof of architectural remains was lacking, and since no one had investigated this possibility, a surface exploration to search for traces or segments of the architectural remains of a Mycenaean road or roads was the next step in finding the clinching evidence that a trade route had indeed existed between the Krisaeon Gulf and the Malian Gulf in Mycenaean times.

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<sup>24</sup>W. McDonald and R. Hope Simpson, "Prehistoric Habitation in Southwestern Peloponnese," *AJA*, 65 (1961), pp. 245, 249, 257; "Further Exploration in Southwestern Peloponnese," *AJA*, 68 (1964), pp. 240-242; W. McDonald, "Overland Communications in Greece During LH III with Special Reference to Southwest Peloponnese," *Mycenaean Studies*, ed. Emmett L. Bennett, Jr. (Madison, 1964), pp. 217-237.

<sup>25</sup>C. Tsountas and J. I. Manatt, *The Mycenaean Age* (Boston and New York: 1897), pp. 35-38; G. Mylonas, *Mycenae and the Mycenaean Age* (Princeton: 1966), pp. 86-87, 224-225.

<sup>26</sup>Heurtley, *op. cit.*, pp. 38-45.

## CHAPTER II

### A SURFACE EXPLORATION IN SEARCH OF MYCENAEAN ROADS

#### IN NOMOS FOKIDHOS AND NOMOS FTHIOTIDHOS

An examination of the topographical maps of central western Greece gave rise to the hypothesis that a trade route of the Mycenaean era would have gone from Kirrha on the Krisaeon Gulf due north past the citadel of Krisa, where there would have been a connection with the road leading directly to the north gate of the citadel, continued northwest toward modern Amfissa, gone on through the mountain passes to Gravia and then, finally, from the headwaters of the Kephissos River, would have reached the Malian Gulf (map 1). Because of that hypothesis, the surface exploration of Nomos Fokidhos and Nomos Fthiotidhos was planned in three parts: 1) the area of the Krisaeon Plain south of Amfissa, 2) the mountainous area between Amfissa and Gravia, and 3) the area between Gravia and the Malian Gulf.

#### The Area of the Krisaeon Plain — South of Amfissa

Outside of the areas of habitation, the Krisaeon Plain, which is south of Amfissa is almost entirely covered with olive groves which would have covered or destroyed any traces of a Mycenaean road across the flat plain. The groves were penetrated at several places between modern Kirrha and the north ravine of the promontory of Krisa, but with no success. Accordingly, the decision was made to begin the search for

the possible northward continuation of the road at the entrance of the north ravine of the promontory of Krisa because a Mycenaean road had been traced along the north side of the spur of the north promontory in 1893.<sup>1</sup> This known road would have been a branch of the main arterial road for the purpose of serving the citadel and would not have been the starting point of the arterial road, which probably would have been at Kirrha. The connecting road, traced and photographed in April, 1972, extends in a westerly direction from the level of the plateau and drops gradually into the Krisaeon Plain where the traces disappear in the olive groves (fig. 2). Since neither photographs nor construction details were available for comparative purposes, it was deemed necessary to examine as much detail of this road as possible. Measuring up to 4.5 m. wide in certain places (fig. 3), it is clearly outlined over a distance of approximately 325 m. and is supported on the exposed side by Cyclopean retaining walls of two to six courses which vary 1.5 m. to 3 m. in height (figs. 4,5). These retaining walls clearly outline the final segment of this road as it disappears into the Krisaeon Plain (fig. 6). The starting point of this connecting segment of the citadel road is at the north gate, but modern olive grove terracing eliminates approximately 225 m. of that portion of the road. The defined width and the architectural remnants of the road support indicate that it was certainly built for heavy traffic which would have included chariots and possibly wheeled carts.<sup>2</sup>

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<sup>1</sup>Lerat and Jannoray, op. cit., p. 133.

<sup>2</sup>W. A. McDonald and George R. Rapp, Jr. (eds.), The Minnesota Messenia Expedition (Minneapolis: 1972), p. 244.

Since the excavators of Krisa had postulated the possibility of road communication leading past the citadel in the directions of Delphi, Amfissa, and toward northern Greece,<sup>3</sup> it was decided to search toward the northwest, bearing approximately  $270^{\circ}$  true, from the point where the known Mycenaean road from the acropolis disappears in the north ravine. The area along the base of the promontory was examined for a distance of approximately 1.5 km. It was after the first 300 m. that a trace of the road was found. Additional traces were found at the 440 m. mark, at the 790 m. mark, at the 880 m. mark, and the final segment, at the 1300 m. mark. Thus, within a distance of 1500 m., five traces of the road were found. Retaining walls of Cyclopean masonry, preserved in one to four courses on the exposed side and measuring approximately 3 m. high, outline the direction of the road which measures approximately 3.5 m. to 4 m. in width (figs. 7,8). Just before crossing the black-top highway, descending from the village of Chrysso, a clearly outlined section was traced for more than 100 m. (fig. 9).

At approximately the 300 m. mark from the entrance to the north ravine, there is what appears to be a large placed-stone structure, measuring about 12 m. in height by about 20 m. at the base (fig. 10). There was no other raised structure of this type either to the northwest or to the southeast along this route of the search. These remains could possibly have been a guardpost or a fortification.<sup>4</sup> Its purpose

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<sup>3</sup>Lerat and Jannoray, *op. cit.*, p. 131.

<sup>4</sup>Professors George Mylonas (Interview in Athens, May 29, 1972) and W. A. McDonald (Interview at the University of Minnesota, September 14, 1972) examined several photographs of the structure, taken from various angles, and agreed that it was of placed-stone construction and could possibly have served the purpose of a guardpost or fortification of some kind.

could have been to control movements along the citadel-connecting road which courses through the north ravine of the promontory upward toward the main gate. There is a guard tower on the south slope of the south ravine of the promontory of Krisa, and, according to the excavators, its purpose had been to defend the declivity of the west wall.<sup>5</sup> Both the north and the south ravines provided a gradual ascent toward the protecting walls of the citadel and, accordingly, since the south ravine had been guarded, it is felt that the unidentified and unpublished structure found during this surface exploration at the entrance of the north ravine could well have been used for the same purpose, that of guarding, in the north ravine.

At the point where the black-top road from the village of Chrysso reaches the Krisaeon Plain, any tracing of the Mycenaean road further to the northwest became impossible because of road construction and olive grove terracing. Nevertheless, it is felt that the road would have gone across the floor of the valley to the northwest in the direction of modern Amfissa (map 1). Since, again, olive groves densely cover the whole area and the spot checks made along the base of the mountains to the east on the way to Amfissa were fruitless, it became necessary that the next part of the search for the continuation of the road would be conducted in the area north of Amfissa.

#### The Mountainous Area between Amfissa and Gravia

Upon examination of the topographic map AMS #1811-2, it was

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<sup>5</sup>Jannoray and van Effenterre, op. cit., 61, p. 323.

decided that a Mycenaean road, leading to the north in the direction of the Vininani, could have gone through any one of four passes (map 2 — 1) right of vertical grid #24, 2) between vertical grids #22-#23, 3) at vertical grid #20, 4) between vertical grids #18-#19). In two of these passes, traces of Mycenaean road construction were found. Thus at least two roads led northward from the vicinity of Amfissa toward the Vininani area and probably had been needed for communication with settlements in the interior of Phocis and those beyond to the north. This multiple road system parallels somewhat that system in the Argolid about which Mylonas writes:

Steffen, in his famous survey of Mycenae, noted at least four roads starting from the Lion Gate: one leading in the direction of Prosymna and Tiryns and the other three in the direction of Corinth.<sup>6</sup>

In addition, based upon recent evidence, McDonald postulates a multiple road system in Messenia — a system which had connected a concentrated group of settlements in that area.<sup>7</sup>

First to be examined was the pass immediately to the east of Elaion (map 3—horizontal grid #68). This pass was examined for a distance of approximately four kilometers up to a point just south of the village of Koulovatae (map 3—horizontal grids #68-#72). That no traces of a road were found is understandable because, at the point of the village and immediately to the north, the mountains rise in an almost vertical wall from the approximately 800 m. level to approximately the

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<sup>6</sup>Mylonas, op. cit., p. 86.

<sup>7</sup>McDonald and Hope Simpson, op. cit., p. 257, especially Note 14; McDonald and Rapp, op. cit., pp. 242-245.



1100 m. level and then on to peaks beyond, rising to the height of in excess of 1200 m. The topography of this pass would not lend itself to Mycenaean road building based upon the typical engineering which which have avoided sudden ascents and descents requiring the construction of numerous "S" curves. It is interesting to note that the conclusions of the work on roads by McDonald and Mylonas in the Peloponnese apply to the roads in Phocis as well. The following descriptions apply:

Where grades were steep, the more direct line had to be abandoned in favor of the long way around on easier slopes.<sup>8</sup>

and

It is made to go around ravines and gullies so that sharp drops and abrupt rises are avoided and its grade is kept even although this process necessitated a longer road and resulted in a meandering course.

In the pass, immediately to the west of Elaion, compass bearing 330° true, between the Koutsouras and the Stolos mountain spurs (map 4—beginning between vertical grids #22 and #23), and through which the modern highway courses, olive grove terraces cover both slopes up to the height of approximately 500 m. above sea level. Because the olive grove terracing would have destroyed any evidence of Mycenaean road construction, it was necessary to proceed four kilometers to the northwest from the floor of the Krisaeon Plain up to the height of approximately 680 m. above sea level to a side, dirt road which leads to the west of the main highway. This area is much disturbed by bauxite mining. Both slopes of this pass, from the 680 m. level, were examined

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<sup>8</sup>McDonald, op. cit., p. 220.

<sup>9</sup>Mylonas, op. cit., p. 86.

for a distance of approximately 1000 m. back down to the 500 m. level, the beginning of the olive grove terracing. It is at the 680 m. level in this area that a large structure of typical Cyclopean construction was found (map 4 --between vertical grids #21-#22 on horizontal grid #70). The east wall, preserved in three courses and running in a direction of  $330^{\circ}$  true, measured approximately 21 m. in length by 2.5 m. to 3 m. in height. The east-west or south wall, at a right angle to the long course, could be measured only for a distance of approximately 9 m. Further east-west measurement and the examination of the west wall was impossible because rubble from the bauxite mining operations covers this part of the structure. In addition, the top of the exposed portion is overgrown with holly oak (fig. 11). The structure certainly appears to be of Mycenaean construction, and, because of its strategic position which commands the pass to the south and the entrance to the Vininani area to the north, it could well have been a fortification.<sup>10</sup> The overall size of the structure is too large to have been a retaining wall nor could it have been terracing since it runs at a  $90^{\circ}$  angle to existing terracing.

It was on the east slope of this pass mentioned above, which is west of Elaion, just southeast of the large structure, that traces of the Mycenaean road were found. From a vantage point high up on the west slope, the line of the road could be followed for approximately

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<sup>10</sup>Both Professor George Mylonas and Professor W. A. McDonald expressed the feeling that this structure had been a fortification, especially since the SE corner construction defines the width of the east-west wall face to be in the excess of 9 m. Supra, footnote 4, p. 9.

500 m. Apparent Mycenaean construction was visible for a good distance with the retaining walls defining the width of approximately 3.5 m. (fig. 12). In one area in particular, the typical small-stone under-structure<sup>11</sup> is exposed (fig. 13).<sup>12</sup> The gentle grade of this pass, which rises only 420 m. over a distance of 3.5 km., allowed the simplest Mycenaean road construction, avoiding the use of "S" curves and the necessity of bridging torrents.<sup>13</sup> The modern dirt roads, to the north of the large Mycenaean stone structure described above and to the east of the Frakoula area, and the extensive mining operations, on the south-east slope of the Vininani area, limited further investigation there. It is possible that one branch of the road could have proceeded around the eastern rim of the valley following the course of the modern road to the Kokkinokhoma area which is the point of descent toward Gravia to the north.<sup>15</sup>

With the help of the local "forest-ranger" and an interpreter, a clearly marked trail ( map 5 -- vertical grids #20-#21, horizontal grids #70-#72), to the east and south of the Frakoula area, was next examined because this trail appeared to descend into the Katsikopniktes Gorge and then proceed southeastward toward Amfissa (map 5 -- vertical

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<sup>11</sup>Mylonas, op. cit., p. 86.

<sup>12</sup>McDonald, upon examining this photograph, felt that this pavement of small stones could probably be the remains of a Turkish kalderim, but that a Turkish road could well have followed an ancient route and could have been built over it. Supra, footnote 4, p. 9.

<sup>13</sup>McDonald and Hope Simpson, op. cit., 68, p. 241.

<sup>14</sup>McDonald and Rapp, op. cit., p. 245.

<sup>15</sup>U. S. Army Map, Series M 708, Sheet 1818-11.

grid #20). Although this trail led through a very deep gorge with only a narrow pass, and turned out to be a Turkish kalderim<sup>16</sup> (fig. 14), it could very well have been of very ancient origin and could have connected small settlements on the southeast slope of the Vininani with the settlements in and around Amfissa. The topographic features of the gorge would have prevented the trail from having been used as a Mycenaean arterial road. This follows the general description of roads and trails as encountered by McDonald:

Footpaths and tracks for pack animals persist with remarkable stability from time immemorial . . . . Most of these tracks can never have been used for wheeled traffic. The grades are too steep, the gulleys and stream beds too frequent . . . . They have always been "secondary" roads and the presumption is that the habitation centers they served were not of first importance, at least in the period of greatest Achaean prosperity.<sup>17</sup>

The trail, although fairly wide in certain places, is generally too narrow for wheeled traffic and it encounters a deep descent upon its entrance into the Katsikopniktes Gorge. The retaining walls along this trail are not of Cyclopean construction and are certainly much more modern. This trail was examined in its south and southwestward direction from the southeast slope of the Vininani to the Katsikopniktes Gorge.

The pass extending northwest, compass reading 330° true, directly to the east of Amfissa (map 5 --vertical grids #21-#22, horizontal grids #67-#68), can be entered by a dirt road about one kilometer to the east from the center of the village of Amfissa.

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<sup>16</sup>McDonald, op. cit., p. 224.

<sup>17</sup>Ibid., p. 220.

Olive trees densely cover the floor and the slopes of this pass for a distance of approximately 4.5 km. until the narrow, vertical-sided Katsikopniktes Gorge is reached. The floor of this pass is deeply cut by a torrent which begins in the Vininani valley and flows through the gorge southeastward. It was impossible to try to trace a road in that 4.5 km. stretch because of the dense olive groves which would have destroyed all traces of it. This pass was studied in both directions, the first entry having been made from the southwest corner of the Vininani into the Katsikopniktes Gorge. At the entrance to this gorge, in the Vininani, on the west side, high up on the side of the mountain, stands a rectangular fortification investigated and described by Lerat. This dates to a much later period and is typical of Hellenic masonry<sup>18</sup> (fig. 15). A modern dirt road has been blasted out of the east side of the gorge, which extends for approximately 4.5 km. before it begins to open up a little more widely as it extends in a southerly direction, and it is only wide enough for one vehicle. The vertical walls of the gorge and the possibility that the stream through the gorge carried a much greater volume of water during Mycenaean times than now would have made it practically impossible to have constructed a Mycenaean arterial road through this pass and gorge (fig. 16). Since the narrowness and the extremely forbidding topography of the narrow gorge would have ruled out an arterial road, the trail leading north and eastward from this pass south of the Frakoula was probably built instead in very early times and continued to be used in Turkish times as it is today. To re-

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<sup>18</sup>L. Lerat, Les Locriens de L'Oest (Paris: 1952), II, pp. 181-182.

peat, even though the pass has a very wide opening toward the south in the area of Amfissa, it would not have been serviceable for an arterial road in Mycenaean times.<sup>19</sup> The only possible use for it would have been as an animal pack trail, which was described above, branching off south of the Frakoula.

The second Mycenaean road was found leading through a pass northwest of the village of Amfissa and directly to the west of the Kofinas, bearing approximately 325° true, and sloping gently upward from a level of 260 m. to the maximal height of 700 m. (map 5 --vertical grids #19-#20, horizontal grids #66-#67; map 6 --horizontal grids #67-#69, northwest between vertical grids #18-#19). Before entering the pass, the first clearly defined segment of the road, approximately 3.5 m. to 4 m. in width and with a Cyclopean stone support on the exposed side, was found at approximately 1 km. northwest of Amfissa and was traceable for more than 120 m. along the base of the mountain from the point where it emerged from the olive grove terracing (fig. 17). Goat pens and other modern surface disturbances at the entrance of the pass destroyed further traces at this point. A modern trail, beginning at the entrance to this pass zigzags up the west slope proceeding northwest for some 6.5 km. and ends in the modern village of Prosilion, located on the west slope of the Vininani area (map 6). At first, the modern trail (fig. 18) was examined carefully for a considerable distance because it might possibly have led to evidence of Mycenaean road construction. The results were negative on all counts because of steep

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<sup>19</sup>McDonald, op. cit., p. 219.

inclines, narrow pavement, and short radius "S" curves. After reaching a level of approximately 400 m. along the west slope of the pass, the direct line of the continuation of the Mycenaean road was then easily seen along the wide expanse of the east slope (fig. 19) where it gradually ascends that slope at an angle very similar to the line of the road which was traced on the north spur of Krisa.<sup>20</sup> Several days were spent in examining this road northwest of Amfissa and it could be traced for some 2300 m. with only a few interruptions. Cyclopean retaining walls in up to four courses were found in many places along the lines of this road on the exposed side (fig. 20). Where the "cut and terrace" technique<sup>21</sup> was employed, horizontal cutting into solid rock is in the excess of 2 m. in width (fig. 21). The width of the road averaged approximately 3.5 m. and in the bed was found exposed the typical small-stone understructure<sup>22</sup> (fig. 22). The road ascends from a 260 m. level to a 700 m. level over a distance of approximately 2800 m. to 3000 m., including that segment of the modern trail which has merged with the Mycenaean road at the 600 m. level. From the point of merging, at the 600 m. level, and for a distance of approximately 1000 m., up to the 700 m. level, the Mycenaean road and the modern trail run parallel to each other in several places with the modern trail on the upside of the slope (fig. 23). At some places the roads are one. At this higher level, the Mycenaean road was clearly identifiable by the Cyclopean re-

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<sup>20</sup>Lerat and Jannoray, op. cit., p. 133.

<sup>21</sup>Tsountas and Manatt, op. cit., p. 36; McDonald, op. cit., pp. 228ff.

<sup>22</sup>Mylonas, op. cit., p. 86.

taining walls, in one to three courses, to the height of .5 m. to 1.5 m. on both sides of the road (fig. 24) and by the exposed understructure which is of stones approximately 25 cm. to 30 cm. in thickness (fig. 25).<sup>23</sup> The surface of the modern trail is made up of much smaller stones and pebbles.<sup>24</sup> At the top of the pass at the 700 m. level, the merged Mycenaean road and modern trail continue on over the next ridge of 800 m. in height, and then on northward to Prosilion. The road was not traced beyond the 800 m. level ridge because the area to the south of Prosilion was to be searched later.

On the west slope of the pass, directly opposite the Mycenaean road described above, were located the foundations of two guardposts or watch towers,<sup>25</sup> from which one would have had a full view of the road and a clear view of the complete valley. The one watch tower in the better state of preservation is approximately 1200 m. to the northwest of the entrance to the pass at the south and halfway up the west slope at the level of about 450 m. The semi-circular construction, projecting out from the slope, almost flat on top, and with a complete rock-fill, is 6 m. in diameter (figs. 26, 27). The east face of the wall measured in excess of 2 m. in height and the west face, against the slope, is

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<sup>23</sup>Concerning fig. 25 George Mylonas writes as follows: "As for the paving of small stones what I can see in your photograph seem to indicate a Mycenaean road . . . ." (Letter from Professor Mylonas, August 18, 1972).

<sup>24</sup>This difference could probably explain why the modern trail and the Mycenaean road separate at times. It is more difficult for people, and probably animals also, to walk on the larger, irregular stones of the exposed stone understructure of the Mycenaean road than on the modern trail made of the much smaller stones well packed together.

<sup>25</sup>Mylonas, op. cit., p. 224.



approximately .5 m. higher. The outer face of the east wall is approximately 65 cm. thick (fig. 28). The construction of this tower, except for the size of the stones, and many of its dimensions are the same as those of the tower in the south ravine at Krisa.<sup>26</sup> The likeness is remarkable. The second watch tower, of approximately the same measurements, is 700 m. to the southeast and from it one could have had a clear view of Amfissa. For the purpose of making a comparison with these watch towers found along the Mycenaean arterial road, the east watch tower on the citadel of Krisa, located behind the protecting walls and identified by the excavators,<sup>27</sup> was re-examined. Whereas the dimensions of the identified east watch tower were larger, the wall masonry was practically identical. According to Mylonas, guardposts and watch towers along Mycenaean arterial roads were common in the LH III B period.<sup>28</sup> Thus, the fact that the newly-discovered road in the valley northwest of Amfissa was flanked by watch towers adds additional support to the conclusion that it was indeed a Mycenaean arterial road.

In addition, at the 540 m. level, on a narrow plateau, was found a circular ruin (map 6 —horizontal grid #69 between vertical grids #17-#18) which seemed to have guarded the pass discussed above and also a valley directly to the west of this pass (fig. 29). The stone foundations, somewhat overgrown, outline an area measuring 40 m. north to south by 30 m. east to west. At the southernmost point are

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<sup>26</sup>Jannoray and van Effenterre, op. cit., p. 325.

<sup>27</sup>Ibid.

<sup>28</sup>Mylonas, op. cit., pp. 224-225.

two huge Cyclopean stones separated by what seems to be an entrance gate to this fortification (fig. 30). This ruin is indeed in a typical position of known Mycenaean fortifications<sup>29</sup> and excavation of this site, suggested by McDonald, would help clarify its identity.<sup>30</sup> The Mycenaean arterial road passes the ruin at a point approximately 200 m. to the east.

Since the north, south and southeast slopes of the Vininani area are heavily disturbed by bauxite mining operations and new road construction, attention was directed to the west slope, specifically the area around the modern village of Prosilion. The Mycenaean arterial road, described above, proceeds in the direction of this village which lies on the 800 m. level of the slope. It was on the south edge of this village that traces of the Mycenaean road were found winding upward toward a group of architectural remains which distinctly resemble Mycenaean construction (fig. 31). These remains, covering an area of approximately 220 m. x 260 m., with huge stones scattered at random around two low rock peaks separated by a shallow declivity, gave the impression of a possible prehistoric settlement. The position and size of the stones, along with the commanding position of the site overlooking the valley below, are very similar to the known Mycenaean remains at the Thoricon on the northeast coast of Attica near Laurion (figs. 32, 33, 34). The outline of what appears to be a fortification

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<sup>29</sup>Ibid.

<sup>30</sup>W. A. McDonald suggests early plotting and sherding of this ruin because of its strategic position. It must be noted here that no permission for sherding had been obtained for this surface exploration. Supra, footnote 4, p. 9.

or citadel is best preserved on the lower of the twin peaks where huge Cyclopean stones are arranged to form a circular wall outlining an area of approximately 20 m. in diameter with extant walls varying from 2.5 m. to 4 m. in height and preserved in up to four or more courses (figs. 34, 35). This flat circular area is filled with small stones and at the southeast corner, the arrangement of the stones seems to define a gate or an opening (fig. 36). These walls were photographed in their entirety. Three places in the general area revealed recent surface disturbances which may possibly have been that of digging. Two circular impressions filled with small stones might be the remains of earlier walls.

Below the circular citadel-type structures were found foundation walls of a number of buildings arranged at successively lower levels. Several structural walls of foundations were photographed and measured. Clearly defined is a structure which appears to be two storage chambers with an inside measurement of each at 2 m. square, with walls 75 cm. thick, and with the height of 2 m. (fig. 37). These chambers are connected to an ill-defined larger structure which would require excavation to reveal the detailed layout. Immediately to the north were found additional foundations which outline an area of approximately 8 m. x 9 m. in a rectangular construction. Its wall thickness is approximately 75 cm. and its height varies from 1.5 m. to 2.5 m. (fig. 38). Here again, excavation will be required to determine the complete extent and layout of the structure.<sup>31</sup>

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<sup>31</sup>Concerning habitation sites of the Late Bronze Age, W. F. McDonald, Director of the University of Minnesota Messenia Expedition, writes in a letter of September 15, 1972, "I tend to believe that your site at Prosilich will turn out to be one of these."

Heavy road construction and bauxite mining were encountered immediately to the north of the Kokkinokhoma, the point of descent on the highway toward Gravia and the Kephissos River valley. Therefore, it was decided that the investigation should be continued south of Gravia, the point where the low level route through the mountain pass between Amfissa and Gravia opens into the Kephissos River valley. At no point along this low level route would it have been necessary to have exceeded the level of 800 m. Furthermore, the topographic map reveals trails coursing through this same area<sup>32</sup> and trails are known to have frequently followed ancient routes.<sup>33</sup>

#### The Area between Gravia and the Malian Gulf

The pass immediately to the south of Gravia was examined for a distance of approximately 1500 m. (map 7). Traces of a Mycenaean road were found on the west slope. The typical Cyclopean retaining walls, on the exposed side where the "cut and terrace" technique was used, can be seen in several places along the clearly defined segments of the road (figs. 39, 40). A modern trail and the highway interrupted any further investigation to the south. The modern trail and the Mycenaean road seem to be one for the first 500 m. examined, and then the modern trail courses upward whereas the Mycenaean road remains on a lower level and follows the bed of the stream. It is beyond the first 500 m. that the clear traces of Cyclopean construction and Mycenaean built road evidence were found. The typical small-stone understructure was

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<sup>32</sup>Army Map Series, M 708, Sheet 1818-2.

<sup>33</sup>McDonald, op. cit., p. 232.

exposed at one point (fig. 39) and the "cut and terrace" technique into solid rock was apparent at a wide curve in the road as it extends to the south (fig. 40). On the west slope, just at the mouth of the pass as it opens into the Kephissos River valley, was found what appears to be a semi-circular type of Mycenaean fortification. Huge stones, some measuring 1.5 m. by 2 m. by 1 m. thick, and in one course, form a semi-circle of approximately 16.5 m. in diameter. It is almost flat on top and could well have been a fortification which guarded the entrance to the pass (fig. 41) for it bears great similarity in its position and its semi-circular construction to the known fortification outside of the protective walls at Krisa. Thus, Mycenaean roads were found to be entering the mountainous area of the west saddle of Mount Parnassos from the south near Amfissa and to be emerging into the Kephissos River valley beyond the saddle in the north.

From Gravia, the course of the Mycenaean road to the north was very difficult to determine because of the agriculture and the topography in the upper reaches of the Kephissos River valley. Spot-checks were made in the area between Gravia and Apostolias and no traces of any Mycenaean road were found.

Realizing that the Mycenaean engineer would have taken advantage of gradual inclines and the natural contours of the land wherever possible, it appeared that the best course for the road would have been through the central part of the Livadhorrakki area to the northwest (map 8 --vertical grids #22-#28, horizontal grids #83-#88). Bearing in mind that Hope Simpson and Lazenby had found traces of Mycenaean settlements at three places to the west of the mouth of the Asopos River on

the Malian Gulf,<sup>34</sup> the easiest route to that area, especially in the direction of the village of Ano-Vardhatais (map 8--vertical grids #22 - #23, horizontal grids #96-#97) was considered. After surveying the area topographically, from the best roads available, it was concluded that in the direction of the village of Oiti there would have been a gradual incline to a minimal height above sea level which would have avoided the construction of too many "S" curves. To have gone over the ridge between Oiti (map 8 --on vertical grid #22 between horizontal grids #89-#90) and the Pournaraki (map 8 --on horizontal grid #89) area would have required a very sudden ascent and an equally sudden descent into the Asopos River valley which was also examined from the headwaters area through the gorge itself as it opens into the Malian Plain. The Asopos Gorge, to the south of the Malian Plain, was examined for some distance even though the water was running rather heavily at the time. Pack animals could have navigated through this gorge and could have connected with trails to the south; however, an arterial road would have been of greater value.

At about 3 km. northwest of Oiti is a plateau area which courses east and west at the level of approximately 700 m. At the west end of this plateau were found traces of what appears to be a Mycenaean road descending to the north in the direction of the village of Kouvela (map 8 --vertical grids #21-#22, horizontal grids #92-#93) (fig. 42). This road was traced in a gradual descent for more than 500 m. Now heavily overgrown, Cyclopean retaining walls support the north side of the road which displays the "cut and terrace" technique type of construction. There is a stone with two ruts approximately just a little

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<sup>34</sup>Hope Simpson and Lazenby, loc. cit.; Hope Simpson, loc. cit.

over 1 m. from center to center (fig. 43). This is the same dimension found by Mylonas between ruts in the Mycenaean road at Mycenae.<sup>35</sup> Time did not permit tracing the road any further to the north than this; however, topographically, it did appear that this road could well have gone on north through the vicinity of the village of Kouvela, across the area of what is identified on the topographical maps as Pergara (map 8 —vertical grids #20-#21, horizontal grids #94-#95), and then could have descended into the Malian Gulf area near the site of the present village of Ano-Vardhatais. As a result, this road's terminus on the Malian Gulf would have been near the areas described by Hope Simpson,<sup>36</sup> especially near the site of the ancient Mycenaean town of Trechis.

Thus, the evidence of Mycenaean road construction and structures extending northward from Amfissa through the Vininani, at Gravia, and on north beyond Oiti would indeed support the hypothesis that there was road communication between the Krisaeon Gulf and the Malian Gulf in Mycenaean times.

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<sup>35</sup>Mylonas, op. cit., p. 86.

<sup>36</sup>Hope Simpson, loc. cit.

### CHAPTER III

#### SOME CONSIDERATIONS AND CONCLUSIONS

The discovery of the Mycenaean road system in Phocis and Doris is important to the archaeologist and historian. The above discovery, in contrast to many vague hypotheses presented regarding roads in this area, will contribute both to the solution of the problems of Mycenaean international and domestic trade, and thus to the study of Mycenaean civilization, and also to our present knowledge of Mycenaean road systems and technology.

The solutions to two historical questions in particular might possibly be closer because of the discovery of the Malian Gulf-Krisaeian Gulf road system. The founding of Delphi as the spiritual center of all Hellenes is known to have taken place sometime in prehistory for those things which appear to have been cult objects have been found in deposits dating to the LH III period. At the end of LH III, according to tradition, the Delphic Amphictyony was founded by Pylades, the son of Strophius, as seen in the Iliad ii, 517, with Delphi as the "center" of its cultural and, thus, "political" unity. Indeed, the selection of Delphi as a "center" is well known, but the location of Delphi as a cult center would not have been geographically practical unless it had been open to communication from all areas of Greece, and the political unity of the Delphic Amphictyony would have had to depend upon easy



communication also. The discovery of the arterial road in Phocis and Doris has now shown that Delphi was in contact with the north by means of a communication system which indeed places Delphi in the center of Mycenaean culture and also at the same time makes it possible for Delphi to be regarded as a geographical center of the first "political" unity of the Greek civilization.

Also the question of the Dorian invasion is one of continuous debate, and though it is not the purpose here to take a stand one way or another, the newly discovered road system could be a pertinent fact contributing to the solution of that problem. Admittedly it is difficult to compare archaeological evidence with the oral tradition of the migrations from the north or the northwest of Greece after the fall of Troy as they culminated in the so-called "Dorian Invasion" because archaeological surveys have not been thorough enough to have provided any reliable answers. The consensus, however, is that the Dorian movement did come from the north in a two-fold attack, one directed at Phocis and Boeotia and the other directed at the Peloponnese. The discovery of the Mycenaean road system in Phocis and Doris may lend support to the conclusion that the Dorians did indeed move down from the north by the best routes possible in order to attack Phocis and the Peloponnese.

At the end of the LH III B, Krisa in Phocis and Gla in Boeotia were destroyed at the same time as those sites in the Argolid and in Messenia, and there is every possibility, now, that the Dorians could have used the newly discovered road system through Doris and Phocis in their southward movement. The easiest access to the Corinthian Gulf and

the Peloponnese from the north, from Thessaly, the Spercheus Valley, Achaea Phthiotis, and possibly from Dolopia, is the isthmus route between the Malian and Krisaeon Gulfs. Furthermore, Mylonas points out that the guardposts and fortifications along the roads between Corinth and Mycenae were enlarged in anticipation of enemy action in LH III B and that the southward movement of the Dorians or the Illyrians would have descended into the Argolid over the established Mycenaean roads.<sup>1</sup> Now guardposts and fortifications have been found along the newly discovered road in Doris and Phocis, and if Mylonas' conclusion is accepted, it is reasonable to assume that these in Doris and Phocis were erected for the same purpose as those in the Argolid. It follows, then, that the recently discovered line of communication could have been the road of entry by the Dorians through central western Greece.

The road system also would be evidence to support various Homeric statements. The fact that a Mycenaean road has been found connecting Phocis with the Pelasgian Argos would certainly lend credence to the Catalogue of Ships. United in a common effort, as described by Homer, those two political centers would certainly have been in communication with each other and that is now shown to have been possible by means of the arterial road which joined them. Also, since the populated areas identified in the Iliad have been found to have been connected by an arterial road, some credence could also be given to the story in the Odyssey wherein Telemachos, son of Odysseus, was driven in a chariot from Pylos to Sparta by Peisistratos, the son of Nestor.<sup>2</sup>

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<sup>1</sup>Mylonas, op. cit., pp. 224-225.

<sup>2</sup>Odyssey 3.481-497; 4.1-2.

McDonald has found a small segment of a Mycenaean road running between Pylos and Kalamata,<sup>3</sup> and since a connecting road has been found which joined the spheres of Phocis and the Pelasgian Argos, one could very well project the continuation of the small road segment from Pylos to Sparta.

The discovery of the Mycenaean road in Phocis and Doris also adds data to the presently developing concept of the Mycenaean road system. W. A. McDonald says, "This new information fits into our growing awareness of comparable routes in Boeotia, Argolid, and Messenia."<sup>4</sup> The detailed and exhaustive work of the University of Minnesota Messenia Expedition, directed by McDonald, has shown a direct relation of primary and secondary road networks with population centers, settlement development, location, and interaction. Professor McDonald did indeed welcome the information of the Mycenaean road in Phocis and Doris since it correlates well with his work and with the counterpart roads known in the Argolid and in Crete.

The primary purpose of Mycenaean roads found in Greece appears to have been that of serving local areas and the settlements within and not necessarily to have been that of connecting independent political centers. The road found in Messenia connects Pylos and Kalamata, both of which are in the same political sphere. Of the four roads leading from Mycenae, one might be considered to have been "inter-state" in character and that is the one going south toward Tiryns. The road

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<sup>3</sup>McDonald and Rapp, op. cit., pp. 26,27.

<sup>4</sup>Letter from W. A. McDonald, University of Minnesota Messenia Expedition, September 15, 1972.

found by Heurtley connects Livadestros with the interior of Boeotia.<sup>5</sup> However none of those roads could be considered to be trade routes because, according to Gomme, a trade route involves foreign trade which in order to reach another place, must pass over the route and be trans-shipped to reach another place,<sup>6</sup> and also a population is needed to move the trade. The Krisaeon Gulf-Malian Gulf isthmus road system was indeed a trade route,<sup>7</sup> and it could have served a triple purpose — that of internal trade and communication, that of "inter-state" communication between Phocis, Doris, and Thessaly, and that of being a segment of an "international" trade route connecting the northern Aegean and the Hellespont with the Peloponnese and possibly with southern Italy. An examination of nautical charts will show that the shortest distance from Troy to the Peloponnese is by way of the Euboean Straits into the Malian Gulf for trans-shipment overland to Krisa and then on to the Peloponnese by ship. This route would be at least one hundred nautical miles shorter than via the Isthmus of Corinth. Taking into consideration the dangers of Mycenaean navigation, as pointed out by Gomme,<sup>8</sup> the isthmus route would be safer and the savings in time would be considerable. The time estimated to cover the land segment of this international trade route from the Malian Gulf to the Krisaeon Gulf would have been only about fourteen hours of travel time by means

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<sup>5</sup>Heurtley, op. cit., p. 39.

<sup>6</sup>Supra, footnote 3, p.

<sup>7</sup>Kase, Master's thesis, pp. 41-50.

<sup>8</sup>Gomme, op. cit., pp. 197ff.

of pack animals or wheeled carts. Stubbings points out that frequent and easy communications are characteristic of the LH III B.<sup>9</sup> Since Krisa was a maritime power, international trade reaching the port of Kirrha from the northern Aegean could easily have been transported on Krisaean ships to any port in the Peloponnese or to southern Italy. Thus, the newly discovered route takes on an entirely new dimension, that of an "international" route. Other than possibly the isthmus of Corinth, this isthmus route in Phocis and Doris is the only area of Greece where such a route would be feasible for easy and efficient movement of trade.

In conclusion, this new factual evidence of an isthmus trade route, together with necessary archaeological investigation, could be the means to stimulate a better understanding of hitherto relatively unknown areas. In contrast to well-known areas of Greece such as the Argolid, Messenia, Attica, Boeotia, and even Thessaly, very little has been done in Phocis and Doris. It is surprising that so little archaeological research has been done in Phocis and Doris since the areas figure so prominently in the Catalogue of Ships. With the exception of some work at the citadel of Krisa and some at the Mycenaean port of Kirrha, the only investigations which have been made have been mere surface explorations limited to already known sites or sites suggested by the Catalogue of Ships. Yet, despite the fact that a Mycenaean road has been vaguely hypothesized by the excavators of Krisa and Kirrha, no attempt has been made previously to determine any locations

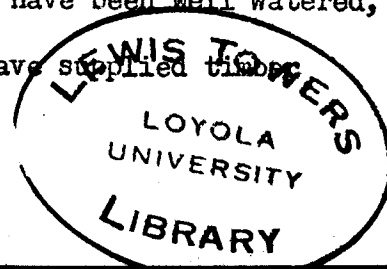
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<sup>9</sup>F. H. Stubbings, "The Expansion of Mycenaean Civilization," CAH, fasc. 26 (1904), p. 5.

of, or even the number of, interior settlements in the area traversed by such a road.

Whereas Lerat examined the Hellenic fortress known to exist at the southeast corner of the Vininani, the structure has not been excavated nor has anyone postulated the reason for its existence or when it was built. What could have been its importance and when? The same question could be asked for the Hellenic fortress structure built on the mountain spur to the south of the pass which opens into the Kephisos River valley at Gravia. One who passes casually through the area would not even notice it, so it also has not been identified or dated.

Since this surface exploration shows two Mycenaean arterial roads leading northward from the vicinity of Amfissa to the area of the Vininani, one's attention turns to another part of Phocis. The roads indicate that there could have been considerable traffic between the Vininani and Krisa and the Krisaeon Gulf as well as north to the Malian Gulf. The Vininani is a flat valley at the 500 m. level, measuring approximately 1.5 km. x 2 km. and it could well have been an agricultural area in Mycenaean times as it is today. In all probability a Mycenaean settlement could be located on the floor of this valley or on the northeast slopes, but close investigation and excavation have never been made. A wide torrent passes through this valley on the west side just below the village of Prosilion, and although this torrent is dry for the most part in modern times, it could have carried a very large amount of water in Mycenaean times before the denuding of the forests on the slopes of the mountains. This valley could have been well watered, supporting extensive agriculture, and could also have supplied timber.



for the ship building activities of the Mycenaeans at the port of Kirrha on the Aërisæan Gulf, but no one knows about this area which is so rich in possibilities of having contributed much to the Mycenaean civilization.

High on the west slope of the Vininani was found what appears to be the remains of a prehistoric settlement.<sup>10</sup> Only excavation will reveal the date and the extent of this settlement which is located along the course of the newly discovered Mycenaean road. Thus, if one possible settlement has been found, it is reasonable to assume that there might be many more settlements and that there is much to be studied in this area. John L. Caskey writes as follows:

Prehistory cannot be studied usefully in its general lines until the archaeological evidence has been gathered and presented in detail, a process which has not been completed up to now at a single one of the sites in Phocis. Kirrha provides some of the information that is needed; much more could have been extracted.<sup>11</sup>

Since the newly discovered road has been confirmed as Mycenaean by Mylonas who writes, "I have no hesitation to state that your photographs show the remnants of a Mycenaean road,"<sup>12</sup> and by McDonald who writes, "I agree that you have sufficient evidence already to establish the existence of overland traffic in the Late Bronze Age between the Corinthian and Malian Gulfs,"<sup>13</sup> plans are now being made for follow-up investigations along the route of this Mycenaean road. Both Mylonas

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<sup>10</sup>Supra, pp. 21-22.

<sup>11</sup>J. L. Caskey, Review of Kirrha. Etude de Prehistoire Phocidienne, by Leopold Dor, Jean Jannoray, Henri and Micheline van Effenterre, AJA, 66 (1962), p. 211.

<sup>12</sup>Letter from George Mylonas, Athens, Greece, August 18, 1972.

<sup>13</sup>Supra, footnote 4, p. 30.

and McDonald have urged such an investigation of the area.

Caskey stated well the status of archaeological investigation in Phocis and in Doris and how this lack of investigation affects the study of history. It is sincerely hoped that the finding of the Mycenaean road system between the Malian Gulf and the Krisaeon Gulf might stimulate thorough archaeological research in this relatively unknown area.



## CHAPTER IV

### SUMMARY OF THE STUDY

The problem considered in this study was to search for traces or segments of the architectural remains of a Mycenaean road or roads in order to determine if there was archaeological evidence which would support the hypothesis, presented in a thesis submitted to the Graduate School of Loyola University, Chicago, that Mycenaean Krisa could well have been the controlling transfer center at the southern end of a trade route between the Krisaeon Gulf and the Malian Gulf.

The initial approach to this problem was a detailed examination of the topographical maps of central western Greece, specifically the confidential maps, AMS Series 708, released by the Hellenic Army Geographic Command for this particular investigation. Secondly, all of the available written and photographic evidence regarding known Mycenaean roads in the Argolid, Messenia, and Boeotia was examined because it was known that Mycenaean road engineers followed the same construction techniques as similar variations in topography were encountered.

On the basis of the known architectural evidence of construction and size and the direction of those known Mycenaean roads in relation to settlements and general topography, the confidential topographic maps revealed areas in Nomos Fokidhos and Nomos Fthiotidhos where possible Mycenaean road remains might be found. Thus, topograph-

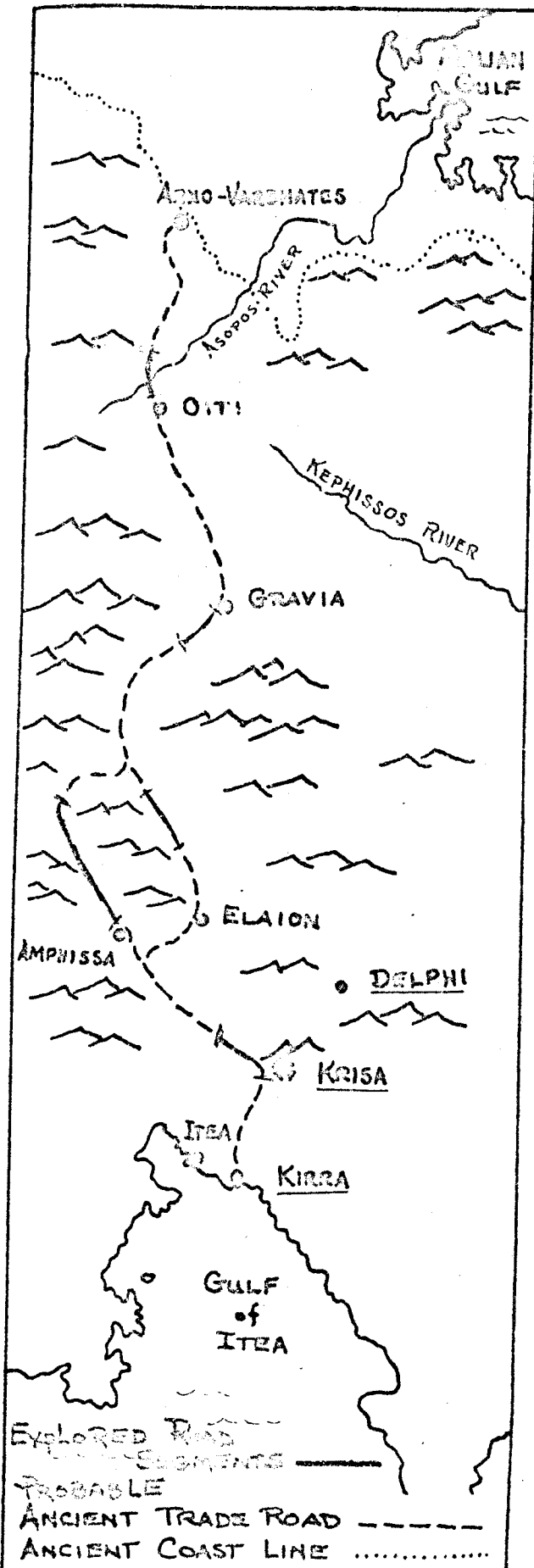
ically it was possible to divide the line of search into three basic segments, the area south of Amfissa, the mountainous area between Amfissa and Gravia, and the area between Gravia and the Malian Gulf.

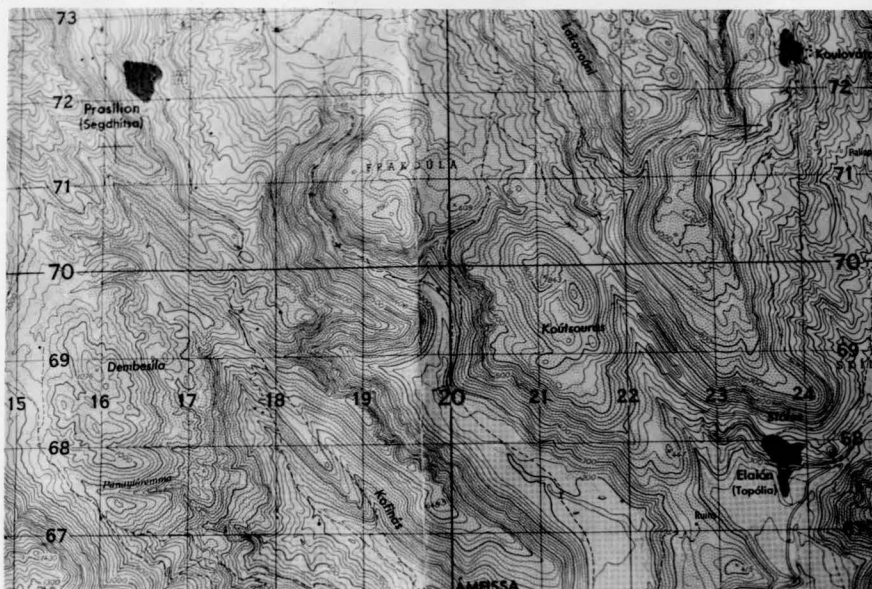
The architectural remains of a Mycenaean road system were found in Nomos Fokidhos and Nomos Fthiotidhos and these remains conformed to the known evidence of Mycenaean roads in size, construction, direction in relation to settlements and general topography. Additional evidence of Mycenaean construction along the newly discovered road was that of watch towers or guardposts or fortifications which also conformed to those known watch towers and fortifications along the known Mycenaean roads north of the citadel of Mycenae in the Argolid. Furthermore, all photographs of the architectural evidence found in this search were examined by two Mycenaean scholars and archaeologists, W. F. McDonald of the University of Minnesota and George Mylonas of Athens, Greece. In personal interviews and by letters, these two archaeologists of long experience in Mycenaean road construction, confirmed the findings of this search.

Thus, the necessary evidence to confirm the original hypothesis that Mycenaean Krisa could well have been the controlling transfer center at the southern end of a trade route between the Krisaeon Gulf and the Malian Gulf has been found.

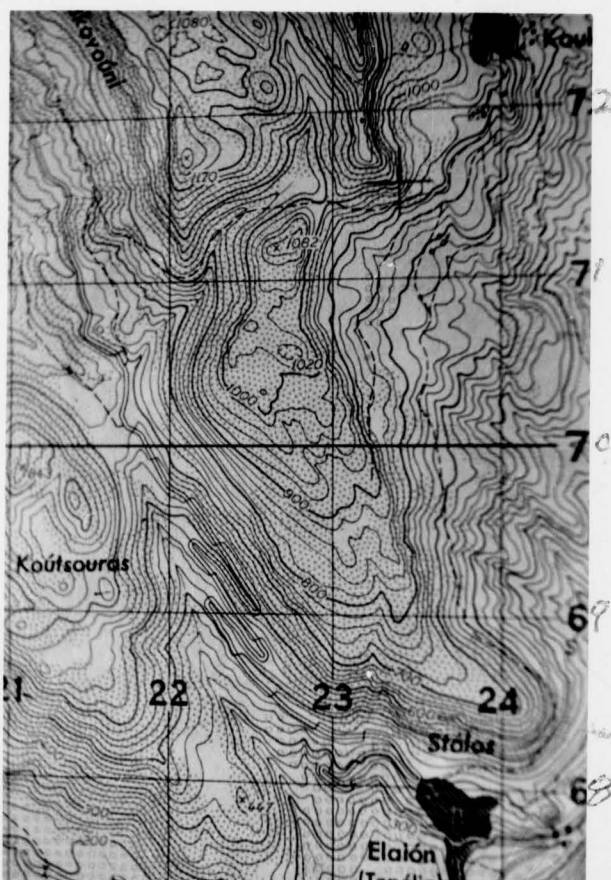
APPENDIX A

MAPS

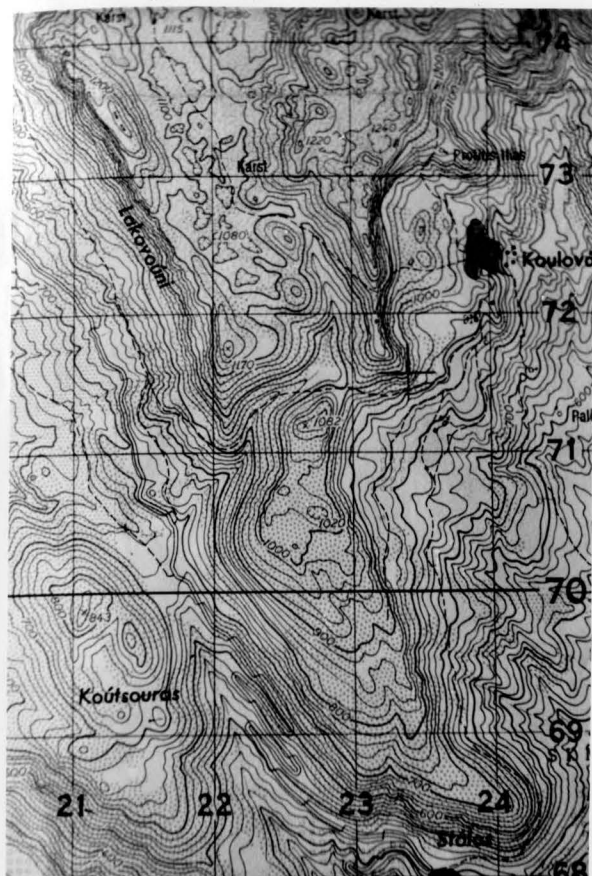




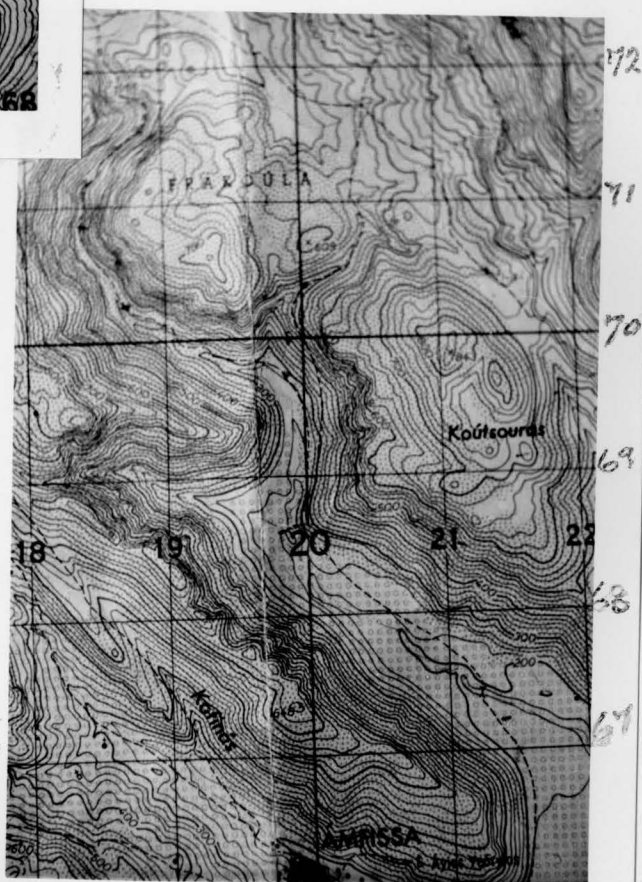
Map 2.--Passes through Mountains and General Topography North of Amfissa.



Map 3.--Sectional Close-up of Passes Northeast and Northwest of Elalón.

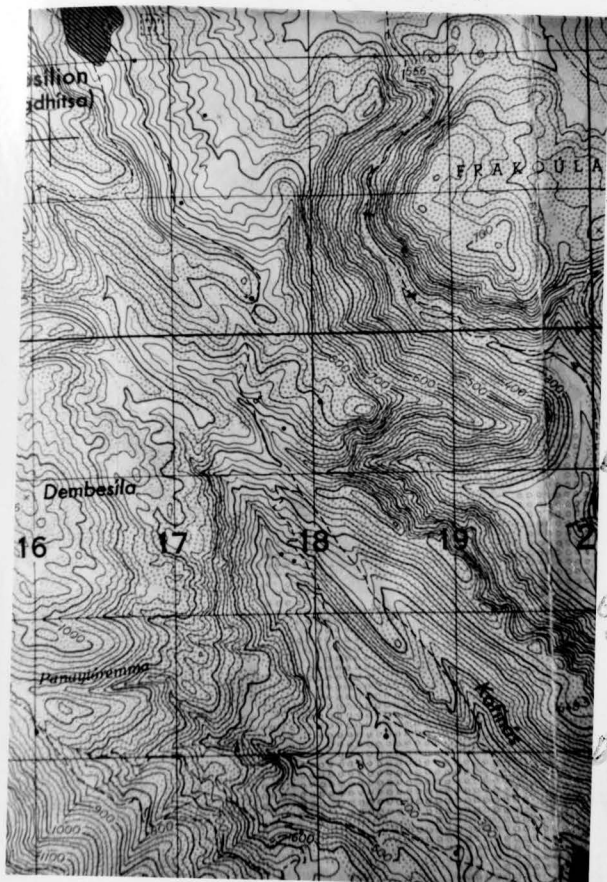


Map 4.--Sectional Close-up  
of Pass Northwest of Elaion.

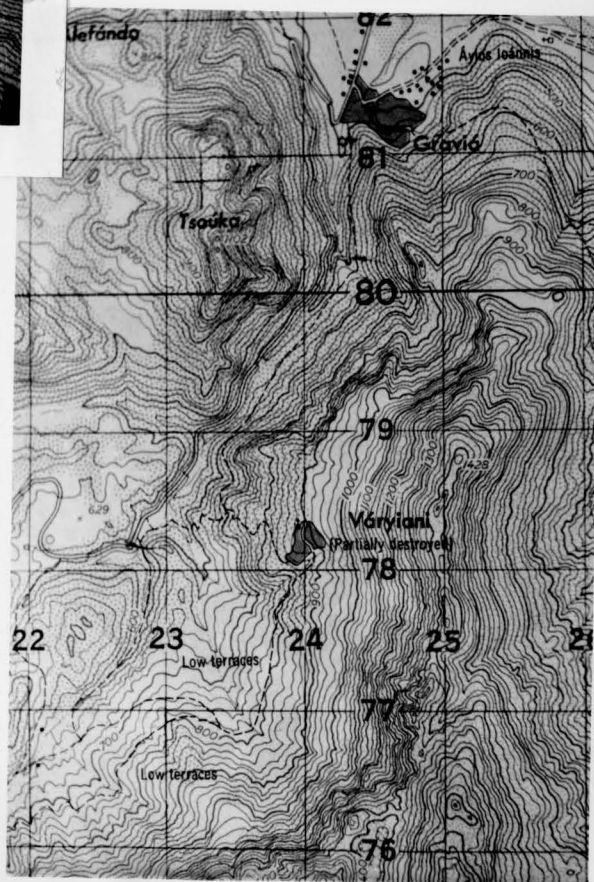


Map 5.--Sectional Close-up  
of Passes Directly North and  
Northwest of Amfissa.





Map 6.—Sectional Close-up  
of Pass Northwest of Amfissa  
Showing Trail Leading to  
Prosilion.



Map 7.—Sectional Close-  
up of Pass South of Gravia.



Map 8.—Area Northwest of  
Gravia Showing Topography be-  
tween Upper Kephissos Valley  
and Malian Plain.



## APPENDIX B

## PHOTOGRAPHS

Fig. 10—Half of 100. (Kilometer plain, and Citadel  
of 1000 in center.)



Fig. 1.—Gulf of Itea, Krisaeian Plain, and Citadel of Krisa on Promontory in Center.



Fig. 2.—Line of Mycenaean Road on South Side of North Ravine of Krisa Promontory.





Fig. 3.—Mycenaean Road on South Side of North Ravine of Krisa Promontory, Toward the West.



Fig. 4.—Cyclopean Retaining Walls Along Mycenaean Road in North Ravine of Krisa Promontory.





Fig. 5.--Cyclopean Retaining Walls Along Mycenaean Road in North Ravine of Krisa Promontory.



Fig. 6.--Cyclopean Retaining Walls Defining Course of Mycenaean Road in North Ravine of Krisa Promontory.





Fig. 7.--Single Course Retaining Wall of Segment of Mycenaean Road Northwest of Krisa Defining Width of Road.



Fig. 8.--Cyclopean Retaining Walls of Segment of Mycenaean Road Northwest of Krisa.





Fig. 9.--Segment of Mycenaean Road Northwest of Krisa Showing Cyclopean Retaining Walls on Exposed Side.



Fig. 10.--Remains of Fortification Guarding North Ravine of Krisa Promontory.





Fig. 11.—Remains of Fortification Along  
Mycenaeae Road in Pass Northwest of Elaion.



Fig. 12.—Segment of Mycenaeae Road in Pass  
Northwest of Elaion.





Fig. 13.—Exposed Stone Understructure of  
Mycenaean Road Segment in Pass Northwest of Elaion.



Fig. 14.—Segment of Turkish  
Kalderim





Fig. 15.—Door of  
Hellenic Fortress Identi-  
fied by Lerat.



Fig. 16.—Katsikopniktes Gorge





Fig. 17.--Road Segment in Pass Northwest of Amfissa



Fig. 18.--Narrow Modern Trail in Pass Northwest of Amfissa



Fig. 19.—Line of Mycenaean Road on East Slope of Pass Northwest of Amfissa.



Fig. 20.—Cyclopean Retaining Wall Along Mycenaean Road Northwest of Amfissa.



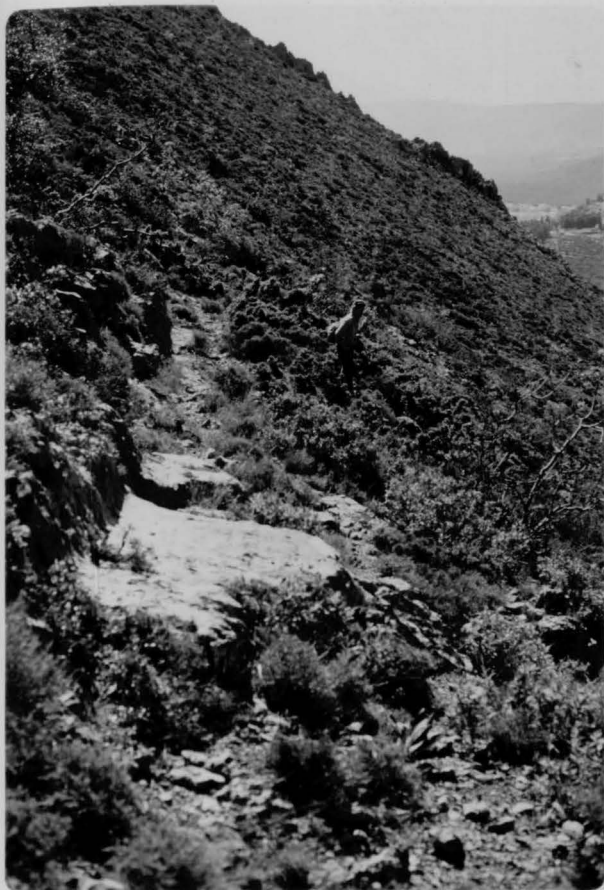


Fig. 21.—Segment of  
Mycenaean Road Illustrating  
"Cut and Terrace" Technique.



Fig. 22.—Segment of  
Mycenaean Road Illustrating  
"Cut and Terrace" Technique.



Fig. 23.—Men at Left Define Width of Mycenaean Road Paralleled by Modern Trail at Right.



Fig. 24.—Cyclopean Retaining Wall on Exposed Side of Mycenaean Road Paralleling Modern Trail.



Fig. 25.--Small Stone Understructure of Mycenaean Road Paralleling Modern Trail.



Fig. 26.--Circular Guard Tower Along Mycenaean Road through Pass Northwest of Amfissa.





Fig. 27.—Circular Guard Tower Along Mycenaean Road through Pass Northwest of Amfissa.



Fig. 28.—Outer Face of Guard Tower Wall.



Fig. 29.—Remains of Fortification Along  
Mycenaean Road through Pass Northwest of Amfissa.

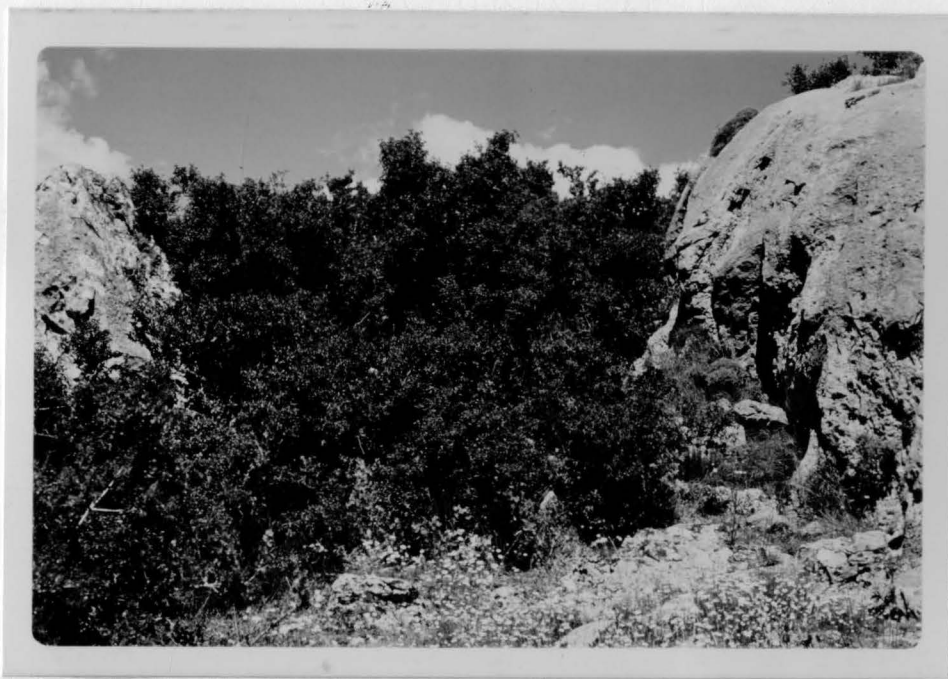


Fig. 30.—Gate to Fortification in Figure 29.





Fig. 31.—Mycenaean Road Leading to Possible Prehistoric Settlement South of Prosilion.



Fig. 32.—Cyclopean Remains of Possible Prehistoric Settlement South of Prosilion.

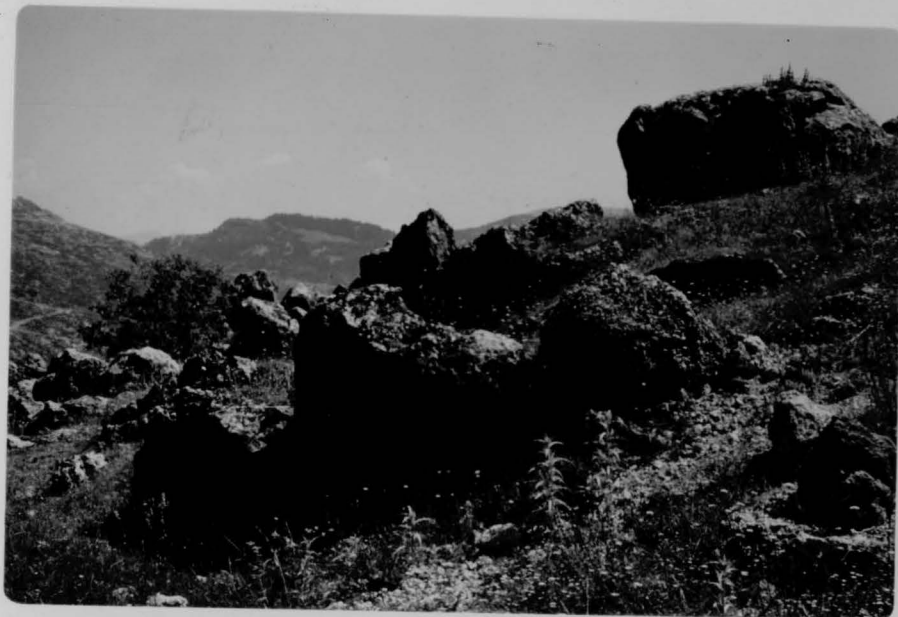


Fig. 33.---Cyclopean Remains of Possible Prehistoric Settlement South of Prosilion.



Fig. 34.---Cyclopean Remains of Possible Prehistoric Settlement South of Prosilion Showing Circular Fortification Outlined by Cyclopean Masonry.



Fig. 35.—Cyclopean Masonry Supporting Circular Fortification at Prosilion.



Fig. 36.—Gate through Cyclopean Masonry in Figure 35.





Fig. 37.—Remains of Wall Foundations at  
Possible Prehistoric Settlement South of Prosilion.



Fig. 38.—Remains of Wall Foundations at  
Possible Prehistoric Settlement South of Prosilion.



Fig. 39.—Bend in Mycenaean Road in Pass South of Gravia Showing Exposed Small Stone Understructure.



Fig. 40.—Segment of Mycenaean Road South of Gravia Showing "Cut and Terrace" Technique.



Fig. 41.—Remains of a Possible Fortification  
at Entrance to Pass South of Gravia.



Fig. 42.—Segment of Mycenaean Road North of Oiti.





Fig. 43.—Segment of Mycenaean Road North of Oiti, Especially Showing Ruts in Stone at Left of Center.

## APPENDIX C

TABLE OF CHRONOLOGY<sup>1</sup>

HELLADIC: The Bronze Age period of the mainland of Greece from ca. 2500 to ca. 1120 B.C., to be distinguished from the Bronze Age of the island of Crete known as the Minoan period. The Helladic is usually subdivided into periods which include the following:

Late Helladic = LH = (I, II, III), from ca. 1580 to 1120 B.C.

Late Helladic I = LH I = from ca. 1580 to ca. 1500 B.C.

Late Helladic II = LH II = from ca. 1500 to ca. 1400 B.C.

Late Helladic III A = LH III A = from ca. 1400 to ca. 1300 B.C.

Late Helladic III B = LH III B = from ca. 1300 to ca. 1190 B.C.

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<sup>1</sup>Mylonas, op. cit., p. 236.



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APPROVAL SHEET

The dissertation submitted by Edward W. Kase  
has been read and approved by members of the Department  
of History.

The final copies have been examined by the director  
of the dissertation and the signature which appears below  
verifies the fact that any necessary changes have been  
incorporated and that the dissertation is now given final  
approval with reference to content and form.

The dissertation is therefore accepted in partial  
fulfillment of the requirements for the degree of Doctor  
of Philosophy.

January 15, 1973

George J. Ziemer, Ph.D.